



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,505	04/06/2001	Elliott P. Dawson	12056-2	7931

23676 7590 08/25/2003

SHELDON & MAK, INC
225 SOUTH LAKE AVENUE
9TH FLOOR
PASADENA, CA 91101

EXAMINER

TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
----------	--------------

1639

DATE MAILED: 08/25/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,505

Applicant(s)

DAWSON ET AL.

Examiner

My-Chau T. Tran

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19, 21-24 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19, 21-24 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendment filed 12/10/02 in Paper No. 7 is acknowledged and entered.
Claims 1-10 are canceled by the amendment. Claims 13 and 15 are amended by the amendment.
Claims 21-34 are added by the amendment.
2. Applicant's amendment filed 6/12/03 in Paper No. 9 is acknowledged and entered.
Claims 20, and 25-27 are canceled by the amendment.
3. Claims 11-19, 21-24, and 28-34 are pending.

Election/Restrictions

4. Applicant's election of Group I (Claims 11-28) in Paper No. 7 (e.g. filed 12/10/02) is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
5. Applicant request for consideration of rejoinder of Group II (Claims 29-34) with Group I (Claims 1-28) is acknowledged. **However**, the two process claims are distinct for the reasons given in Paper No. 6 (e.g. *each process require different method steps, different materials, and produces different results*) and the restriction between process claims is deemed proper (as discussed above). Further, nowhere in the MPEP does it state joining the two distinct methods is appropriate. In accordance with M.P.E.P. §821.04 and *In re Ochiai*, 71 F.3d 1565, 37 USPQ

Art Unit: 1639

1127 (Fed. Cir. 1995), if applicant *elects claims directed to the product*, and a product claim is subsequently found allowable, withdrawn process claims (e.g. the process for making and/or using the product) which depend from or otherwise include all the limitations of the allowable product claim will be rejoined.

6. Claims 29-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 7.

7. Applicant has elected the following species for the elected invention (Claims 11-28):

- i. Species E (type of cutting device): a microtome, claim 12.
- ii. Species F (type of target-strands): a target substance embedded in a porous rod, claim 13.
- iii. Species G (type of bundle of target-strands): proteins, claim 14.
- iv. Species H ("stabilizing" material): epoxy, claim 18.
- v. Species I (type of "incorporated" material): secondary enzyme, claim 28

8. Claims 21-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species (e.g. species G), there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Art Unit: 1639

Drawings

9. The photographs submitted on 04/06/01 for figures 15 and 16 are acceptable.
10. Claims 11-19, and 28 are treated on the merit in this Office Action.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 11-19, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Stimpson (US Patent 6,037,186; filed 7/16/1997).

Stimpson discloses “a method to produce arrays of compounds for concurrent testing” (Abstract; col. 3, lines 47-54; col. 4, lines 22-34). “Two formats are described using porous rods or porous sheet materials. In both cases, a bundle is formed by radial compression of the rods or spiral wrapping of the sheet. A sheath is applied to the bundle and arrays are cut as slabs. Each synthesis or application step to create an array element is used to fabricate multiple arrays.” The array elements (target substances) comprise biological compounds such as nucleic acid and proteins (col. 3, lines 47-51). The rods comprise materials such as polystyrene or polypropylene (col. 10, lines 16-49). The array elements are attached to the rod (col. 4, lines 7-11) (target

Art Unit: 1639

substances embedded in a porous rod). The location of the rods and array elements are noted by "marking" the rods (col. 11, lines 18-31). The thickness of the cut slabs is in the range of 0.2-1 mm thick (col. 12, lines 11-14) (refers to claims 15 and 16). The cutting is performed by either a microtome device or laser (col. 12, lines 12-17 and lines 42-54). The array elements can be labels with either direct or direct labeling with enzymes (col. 11, lines 46-59) (refers to claims 19 and 28). Therefore, the method of Stimpson is anticipated the presently claimed invention.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 11-19, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinkel et al. (US Patent 5,690,894) and Stimpson (US Patent 6,037,186).

Art Unit: 1639

Pinkel et al. disclose a method "for fabricating biosensors comprising a plurality of biological "binding partners" (molecules that specifically bind other molecules to form a binding complex such as antibody-antigen, lectin-carbohydrate, nucleic acid-nucleic acid, biotin-avidin, etc.) linked to optical fibers" (col. 3, lines 2-7). The multiplicity of optical fibers is bundled together to form an optical fiber array (col. 3, lines 18-20). The binding partner includes nucleic acids, antibodies, proteins, and lectins (col. 3, lines 13-17). The fibers are marked in order to note the location of the binding partner (col. 11, lines 5-13). The can be labeled with a secondary binding partner (col. 13, lines 57-63) (refers to claims 19 and 28).

The method of Pinkel et al. does not expressly disclose that sectioning the bundle of target-strands.

Stimpson discloses "a method to produce arrays of compounds for concurrent testing" (Abstract; col. 3, lines 47-54; col. 4, lines 22-34). "Two formats are described using porous rods or porous sheet materials. In both cases, a bundle is formed by radial compression of the rods or spiral wrapping of the sheet. A sheath is applied to the bundle and arrays are cut as slabs. Each synthesis or application step to create an array element is used to fabricate multiple arrays." The array elements (target substances) comprise biological compounds such as nucleic acid and proteins (col. 3, lines 47-51). The rods comprise materials such as polystyrene or polypropylene (col. 10, lines 16-49). The array elements are attached to the rod (col. 4, lines 7-11) (target substances embedded in a porous rod). The location of the rods and array elements are noted by "marking" the rods (col. 11, lines 18-31). The thickness of the cut slabs is in the range of 0.2-1 mm thick (col. 12, lines 11-14) (refers to claims 15 and 16). The cutting is performed by either a microtome device or laser (col. 12, lines 12-17 and lines 42-54). The array elements can be

Art Unit: 1639

labels with either direct or direct labeling with enzymes (col. 11, lines 46-59) (refers to claims 19 and 28).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include sectioning the bundle of target-strands as taught by Stimpson in the method of Pinkel et al. One of ordinary skill in the art would have been motivated to include sectioning the bundle of target-strands in the method of Pinkel et al. for the advantage of providing a three-dimensional array that behave like membrane composed of porous materials and conduct flow through (Stimpson: col. 3, lines 36-46) since both Pinkel et al. and Stimpson disclose method of attaching of binding agent to a rod (Pinkel: col. 10, lines 13-20; Stimpson: col. 4, lines 7-11).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 703-305-6999. The examiner is on Increased Flex Schedule and can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 703-306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Application/Control Number: 09/827,505


Page 8

Art Unit: 1639

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

mct

August 20, 2003


PADMASHRI PONNALURI
PRIMARY EXAMINER